

# COST *and* MANAGEMENT

THE OFFICIAL JOURNAL OF

THE CANADIAN SOCIETY OF

COST ACCOUNTANTS & INDUSTRIAL ENGINEERS

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J. N. Allan, R.I.A., Secretary-Manager and Editor

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# EDITORIAL

## The Human Factor in the Present Economic Situation

During the second war period, and for the last several years, the various shades of economists have been telling us what is going to happen economically because the CYCLES AND TRENDS have portrayed those coming conditions. They have at times also told us what we should do to avoid the drastic this or that. Some of those bad experiences are not being felt or realized. Can it be said that the economists are wrong? No! But we might say that we have heeded their projections and have taken the suggested procedures to avoid the, what was in the past considered so, inevitable. The depression has not happened yet, no doubt, largely because, with the help of Government control, and our own self education, we have taken the course necessary to avoid circumstances supporting depressions. Of course we did not expect a too violent prosperity period either, because of the scarcity of those factors, materials, merchandise and products, which make prosperity possible.

We do not realize that in this present century, due to world communication, the world is moving along, economically, more as one world than it ever did in the past. In previous times there might be a depression in one part of the world while at the same time a period of prosperity was in full bloom in some other part. Because of the time necessary for the carrying of news and the longer trade transportation periods, the country of prosperity had to slow down to wait on the country in the depression, economically and before the period could equalize, the situation in the two locations was reversed. The prosperity developed in the depression country and similarly the depression happened in the prosperity country.

For those who are interested in statistics we offer a cost of living comparison, computed in the usual manner of fuel and shelter, food and clothing, in past years to the present based on 100%.

In the year 1813 it was .....	51%
1865 .....	44%
1920 .....	48%
1942 .....	63%

These figures are computed from studies made of cycle periods and in order to fully appreciate this comparison, the value of money in these years must also be considered.

There is some evidence in this present day that depressions can be avoided to no mean degree by keeping the public informed and educated along prevailing economic progress and existing conditions.

Industrial accountants must, more efficiently and directly, cost for the future and let past records be maintained for tax purposes. One of the most practical and potent factors in avoiding depression periods is in con-

## EDITORIAL

trolling the COSTS OF TO-MORROW, regardless of the costs last year. It is our professional responsibility to do this. In failing to practically and conscientiously produce and provide such information, we are placing our professional prestige in jeopardy.

# Controls and the Metamorphosis to Demand and Supply

At this time the industrial controls are practically demobilized and probably will be entirely, in the material fields, by the end of this year. Ownership and banks still have confidence in the democratic way of life. This is no better in evidence than in the new plants being constructed, the new and modern equipment being installed and the refining of production methods to put the products on the market for a cost that will allow sales at fair, reasonable, and competitive selling prices. There is much evidence that our war-time production initiative is being intelligently and efficiently applied in our peace-time revival of industry and business.

It might be an interesting problem in research to survey this progress and measure the effective contribution to the accomplished reconversion by our cost accounting profession.

The labour situation will continue to be spotty in the larger industries where union organizations are subject or susceptible to the influence and design of subversive elements. This is especially problematic as long as there is no effective means of counteracting those encroachments. That responsibility could hardly be assumed by any particular industry or industrial body. It would seem to be one of the duties in the field of the Dominion Government to take any steps which might be indicated for the prevention of the prejudicing of our democratic way of living. It might also be said that we must be protected from the FEAR of losing our democratic FREEDOM as enjoyed by Canadians, in the privilege of eating, playing, sleeping, worshipping and certainly that of working gainfully where and as we individually desire within the structure of the principles of Canadian democratic freedom.

The economic trend as portrayed by the statisticians in their cycle graphs is apparently varying favourably away from the projected depression. It will soon be the case, not of who is to blame, but to whom may the credit be given. While big business is well aware of the beat of this economic pulse, the smaller business man and the individual is apt to take conditions for granted and be unappreciative of the opportunities present in Canada.

## Our Students—Cost Accounting—The R.I.A.

Through years of experience, practice, research and to meet the demands of our profession, our Educational Committees, in co-operation with leading Canadian Universities, have prescribed a syllabus of study for our courses which have been proven satisfactory in the calibre of our graduates. Our

## COST AND MANAGEMENT

policies in education are being confirmed in the increasing respect and prestige that the R.I.A. and L.C.M.I. designation is attaining.

There are now over 900 students in our Society aspiring to become registered members. Studies are now being resumed in preparation for examinations to be written next April. Now is the time to realize the amount of effort that is required to pass those examinations. It will be too late to wait until next March or April. This is particularly true concerning those students who attend lecture classes believing that the instructor has performed all the work necessary and the student has only to listen to what is said. Those taking lecture courses must study just as much as those taking correspondence courses. In order that students may better appreciate the need for concentrated study, we reproduce below the percentages of those who passed the examinations last April.

Business Mathematics .....	35.5
Accounting I .....	66.3
Accounting II .....	25.5
Fundamentals of Cost Accounting .....	40.8
Advanced Cost Accounting .....	58.8
Industrial Organization and Management .....	62.3
Industrial Legislation .....	75

In the May 1946 issue of "Cost & Management", we published an article "How to Study" by E. W. White. This article received widespread attention and it is suggested that the students refer to it once again and read it carefully. Those who do not have a copy can secure one from the Library of the Society. It is also suggested that students read carefully the Student Section which is resumed in this issue.

## This Issue

It will be noted that this issue has been designated August - September. It was intended that the Year Book would have been published in August in two parts — Part I containing the business proceedings at the Annual Meeting and list of members while Part II would include only the technical address and the address of the guest speaker at our Annual Dinner. Unfortunately, the Year Book could not be completed during the month of August but will be ready for mailing in September.

## Income Tax Act

### General Revision Applicable to 1948 and Subsequent Taxation Years.

The yearly changes in and additions to the Income Tax Act have made a general revision of this Act long overdue. For several years this revision has been promised. During the closing days of the last session, on July 12th, a revision of the income tax law in the form of a bill was placed before the house. This bill was not presented for enactment or for debate but solely in order that the members and others interested could study it before it is presented for enactment next session. The Minister of Finance stated: "I can assure all interested groups that suggestions for improvement in the statute will be welcomed and given careful study by the government."

## NEW MEMBERS

A revision of the income tax law will be welcomed by all taxpayers but especially by Industrial Accountants and Public Accountants who must apply its rulings in their daily work. For a department of government to place a proposed bill in the hands of the public some months before its presentation for enactment is certainly something new and it is to be hoped that other departments, Provincial and Federal, will give business and industry an opportunity to study and report on proposed legislation in the future.

Those interested can obtain a copy of Bill No. 454, re Income Tax Act, price .10c from the King's Printer, Ottawa. The Legislation Committees of the various Provincial Societies have this matter under consideration and the members are requested to forward their suggestions to their respective Committee.

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## New Members

### St. Maurice Valley Chapter

Mr. Gwyn Benson, Shawinigan Chemicals Ltd., Shawinigan Falls, P.Q.

Mr. E. R. Williams, Shawinigan Chemicals Ltd., Shawinigan Falls, P.Q.

### Kitchener Chapter

Mr. Joseph Anthony Tusch, Naugatuck Chemicals Ltd., Elmira, Ont.

### Niagara Chapter

Mr. B. Sinclair, Joseph Stokes Rubber Co. Ltd., Welland, Ont.

### Toronto Chapter

Mr. Herbert Francis Watt, Multigraph-Addressograph of Canada Ltd., Toronto, Ont.

### Calgary Chapter

Mr. J. Gordon Fletcher, James Richardson & Sons Ltd., Calgary, Alta.

### Edmonton Chapter

Mr. Myles Christian Tompkins, Dept. of National Revenue, Income Tax Division, Edmonton, Alta.

Mr. Frederick Norman Keil, Dept. of National Revenue, Income Tax Division, Edmonton, Alta.

### Lethbridge Chapter

Mr. John Richard Kimber, Stern Furniture Co., Lethbridge, Alta.

### Kelowna Chapter

Mr. John A. Ritch, Kelowna Creamery Ltd., Kelowna, B.C.

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## Personals

Congratulations are extended to Mr. T. Smyth, L.C.M.I., whose appointment as Treasurer has been announced by Mr. de Gaspé Beaubien, President of David & Frère Limited. Mr. Smyth has long been an active member of the Montreal Chapter.

## COST AND MANAGEMENT

### Examination Results, 1947

In the 1947 Examinations of the Society, the following students obtained pass standing in the subjects listed:

#### ACCOUNTING I

##### THE SOCIETY OF INDUSTRIAL ACCOUNTANTS OF BRITISH COLUMBIA

W. Branter, Vancouver	R. Humphries, Vancouver
W. Cameron, Vancouver	F. M. Jensen, Vancouver
G. A. Culbert, New Westminster	G. Mavor, New Westminster
J. Grimmer, New Westminster	L. C. Newburg, Victoria
F. G. Grimshaw, Vancouver	W. H. Shaw, New Westminster

##### THE SOCIETY OF INDUSTRIAL ACCOUNTANTS OF ALBERTA

E. A. Bishop, Calgary	W. A. Russell, Edmonton
V. T. Fowler, Edmonton	J. N. Smyth, Calgary
Miss Irene E. Lea, Calgary	R. L. Timmins, Calgary
R. Logan, Calgary	C. Vels, Calgary
N. L. McCartee, Lethbridge	V. Wark, Lethbridge
E. B. McKittrick, Edmonton	

##### THE SOCIETY OF INDUSTRIAL AND COST ACCOUNTANTS OF MANITOBA

D. Korn, Winnipeg

##### THE SOCIETY OF INDUSTRIAL AND COST ACCOUNTANTS OF ONTARIO

T. W. Adair, Kingston	G. W. Hames, Windsor
W. S. Arnold, Hamilton	F. Hartley, Brantford
K. W. Bell, Brantford	R. J. Hiscock, Windsor
W. H. Booth, Hamilton	G. Hobbs, Windsor
W. M. Brown, Moncton, N.B.	K. C. Huffman, Hamilton
J. T. R. Brownridge, Kingston	R. G. Hutchinson, Hamilton
D. J. Canary, Hamilton	H. G. Hyatt, Windsor
M. A. Capper, Hamilton	J. J. Kane, Kingston
J. W. Carter, Hamilton	H. E. Kelly, Hamilton
F. R. Clarke, Belleville	K. A. Kidd, Peterborough
C. H. Compeau, Kingston	W. R. Leckie, Hamilton
R. Cooley, Hamilton	J. E. LeGear, Hamilton
K. Coupland, Kingston	D. C. Lehman, Hamilton
B. F. Craig, Toronto	K. R. Lescombe, Windsor
G. B. Curtis, Hamilton	B. J. Lloyd, Toronto
H. G. Darling, Windsor	J. A. Lowrey, Hamilton
J. L. Dool, Kapuskasing	H. R. Lucas, Hamilton
G. Fetherston, Toronto	R. F. Marchen, Toronto
C. F. Frederickson, Toronto	G. L. Martin, Hamilton
C. F. Freeman, Hamilton	J. A. Melville, Port Arthur
H. T. Grimes, London	N. K. Michener, Welland

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A. J. Molineux, Hamilton	T. B. Searles, Windsor
J. J. Moore, London	J. Shanks, Fort William
A. MacLean, Toronto	C. M. Smith, Hamilton
E. J. McCarthy, Hamilton	W. F. Smith, Hamilton
N. P. McIsaac, Hamilton	B. E. Stevens, Windsor
R. McKenna, Toronto	J. Stewart, Hamilton
J. W. McLean, Hamilton	W. W. Turner, Hamilton
A. U. Oakie, Toronto	J. H. Wallace, London
J. M. Orme, Dunnville	R. G. Wands, Hamilton
J. M. Otterbein, Toronto	N. E. Whinton, Hamilton
H. A. Pakrul, Welland	T. E. White, Hamilton
W. W. Plewes, London	W. A. Wilson, Brantford
T. H. Proctor, Hamilton	J. W. Winn, Hamilton
E. Ralph, Toronto	C. K. Wolff, Ottawa
J. M. Reynolds, Toronto	D. B. Wood, Toronto
E. W. Scott, Toronto	

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J. Adams	V. Trahan
F. Cummings	R. Houde
M. H. Dallaire	C. A. Rivard

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R. Dutchburn, Paris	E. W. Scott, Toronto
G. Hobbs, Windsor	W. F. Smith, Hamilton
J. E. LeGear, Hamilton	J. H. Wallace, London
J. A. Lowrey, Hamilton	R. G. Wands, Hamilton
G. L. Martin, Hamilton	G. K. Watson, Fergus
C. Miller, Welland	A. J. West, Toronto
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J. M. Otterbein, Toronto	

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## COST AND MANAGEMENT

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A. R. Grant, Calgary	A. J. McPhee, Calgary
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J. Cummings, Edmonton	S. R. Lawrence, Calgary
A. R. Grant, Calgary	A. J. McPhee, Calgary

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V. C. Davis, Toronto	H. B. Miller, Elmira
W. J. Downes, Hamilton	G. Morgan, Windsor
E. F. Grabowy, Fort William	C. MacDonald, Hamilton
J. Griner, Toronto	W. D. McAllister, Ottawa
J. G. Hall, Kingston	S. J. Nadorozny, Woodstock
W. A. Irwin, Toronto	E. R. Perkin, Windsor
D. K. Jackson, Hamilton	J. H. C. Riley, Toronto
J. Laing, Hamilton	A. W. Stringer, Toronto
G. Langhorne, Peterborough	F. H. Weir, Hamilton

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## Current Literature Digest

(By HAROLD BRICKER, C.G.A., R.I.A.)

As you are reading this, the holiday season is just about over and we are back on the job, beginning to wonder what the rest of the year will yield in respect to our business activity.

The excess profits tax is still in effect till December 31st, 1947. Some have said this is bad. On the other hand it appears to be having the desired economic effect in that it is retarding large manufacturers from going ahead full steam and flooding the market with high priced goods which will absorb the latent purchasing power and produce exorbitant profits. During this time the smaller starting enterprises and smaller competitive enterprises are being given the opportunity of getting better established without the worry of high power and restrictive competition. It would seem to be a period during which all business has the chance to soundly prepare for a highly competitive year 1948.

Factory Management and Maintenance, recently published a review in "Looking Ahead In Business", in which there are some interesting comments, such as:

Business passed the mid-year mark in full stride. Production and employment are running at near-record levels. There are more and more signs that the much-discussed recession will be no more than a minor dip.

More people had jobs in mid-May than ever before.

Department store sales picked up after Easter.

The stock market staged a smart late spring rally.

The slow down in housing isn't nearly as serious as many pessimists thought it would be.

The inventory boom is tapering off with a minimum amount of grief for all concerned.

**DON'T LET THIS CATALOGUE OF BUSINESS STRENGTH CONVINCE YOU THAT ALL DANGER OF RECESSION IS PAST.**

In some cases buyers have only themselves to blame for being too anxious to buy even at higher prices. In others government buying for foreign relief has also been putting pressure behind prices. In any case, **THE LONGER THE INEVITABLE COME-DOWN IS PUT OFF, THE HARDER IT WILL BE TO TAKE WHEN IT DOES COME.**

We have, for years, heard much about the cost of living comparisons with the base or previous periods. While we may have, locally, criticized them, we were perhaps not too aware of the method used to determine this information.

### THE COST OF LIVING INDEX

The Accountants' Magazine, of Edinburg, Scotland, published, recently, a comment on the method of computation of the index in that country which may be of interest.

The Ministry of Labour Cost-of-Living Index has now been terminated.

## CURRENT LITERATURE DIGEST

It has done duty for many years as, "the cost of maintaining unchanged the pre-1914 standard of living for the working-class families."

Doubtless it has served a very useful purpose — in its time, but that was some considerable time ago. It will be recalled that the index was based largely on the investigation into urban working-class budgets (nearly 2,000 of them) as long ago as 1904, supplemented by other studies of working-class expenditure over the next few years. These investigations showed that, at the period under consideration, working-class expenditure was absorbed thus; food, 60 per cent; clothing, 12 per cent; rent and rates, 16 per cent; fuel and light 8 per cent; and "other items", 4 per cent. These proportions have continued to be used right up to the latest calculation of the index. Further, changes in the basic prices of foodstuffs and commodities bought by the working-class families in the pre-1914 era have been the only ones which have been employed in the index. By definition it was, of course, right that no change should be made in the commodities entering into the index or in the proportion in which the main groups were combined. If the index is to be considered more than an academic exercise, clearly, the basis needs a considerable revision.



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## COST AND MANAGEMENT

No final decision on alternative plans for a new index, has been taken at this point but most statisticians would agree that a currently weighted index offers a promising line of approach.

We are fortunate, in Canada, to have a cost of living index procedure set up on a modern basis and subject to current variations to the Canadian basic period.

### WAGES, PRICES AND PROFITS IN A FREE SOCIETY

The Controller has published an article on the above subject by Emerson P. Schmidt. Among the points brought out there are some that might be repeated, as:—

A comment states that A COMMON OBJECTIVE IS NEEDED. If we are to continue to enjoy our high standard of living, one that has been rising at an average rate of two to three percent annually, we must have a basic understanding of the economic forces involved and the need for balance in the interplay of these forces. Without this, we may gain temporary advantages — as wage earners, as profit-recipients, or as buyers of the products of industry and commerce — BUT we likewise run the great risk of losing the FREE SOCIETY which is essential to a long-range continuance of adequate wages, fair prices, and reasonable profits.

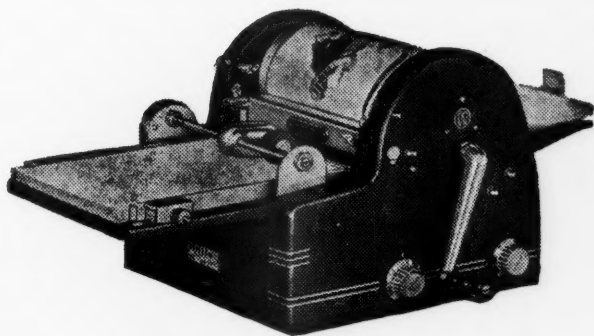
There is a strange allegory in the situation where labour is striving to be freed from controls of one kind, while they themselves, in many cases, submit to the most drastic controls of union activities which merely increase wages in one form or another, such as benefits, and to no small degree result in the common misdemeanour of "restraint of trade." Through no fault of labour this may be an economic brake in times of inflation but in the reverse condition economically, many businesses have been thrown into liquidation for this basic reason followed by the pyramiding accompanying effects.

There is rampant in the ranks of labour a fallacy that increased wages will increase purchasing power. Even a dull pencil, with some rational thought, can on paper easily disprove this in one's personal cost-of-living experience. For labour, as in business, the NET REVENUE, with reasonable living, provides the answer.

It is scarcely appreciated that your income and my income are a cost to someone else. Indeed, under a free enterprise and competitive economy, where there is freedom and the will to open new factories and other business establishments, there is no way by means of which employers or owners can keep efficiency gains to themselves. We do not, however, need government directives, (or closed union control), or planning boards to spread the fruits of production among all groups. To-day, the consumer, (you and I), is paying the price for our denying these elemental truths.

There is a long-range result which is or has been the stabilizing factor in our economy.

From 1840 to 1930, a period when we had little unionism, and none of the subversive tainted class, and little labor legislation, wage rates increased seven fold while prices rose only 20 per cent. It was the competitive bidding for scarce labor which drove wages up. Inventions, labor saving tools, a phenomenal rise in industrial know-how, as well as better educated workmen, made possible this enormous rise in wages, and rates, while prices were nearly constant. We steadily turned out more goods per hour of work;



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## COST AND MANAGEMENT

the competition in the goods market and the competition among employers for the services of labor moved wages up. A rise in living standards was shared by all consumer groups.

It should not be overlooked that the human intelligence of Canadians of to-day may so nurture business and industry in its progress that it may fall into the continuing trend of the preceding period cited above.

### DISPOSITION OF RECORDS AND CONTROL OF RECORD FORMS

How can money, space, and manpower be saved through a systematic, constant review and supervision of the immense accumulation of papers and documents that is a part of the daily result of operating a business enterprise?

That is the subject of an article in *The Controller*, by F. S. Slick.

Some corporations have a trained forms analyst as a member of the controller's staff and is also a member of the Record Disposition Committee. This function is taken care of in the larger business firms, but in the smaller firms there is still a demand for more definite control in this end of the business. With changing conditions and the changes necessary in records whether for legal, tax, or the demands of economy, a committee of department heads, including legal representation should assume record responsibilities under procedure similar to:

1. Determine the extent of present records, where they are filed, and in what manner.
2. Recommend future policy as to the location and method of filing all records of the company.
3. Investigate each type of record which goes to storage, and in co-operation with the department manager involved, recommend in writing its disposition, considering future reference needs, the following being typical:
  - A. Supports payments made to others.
  - B. Supports claims against others.
  - C. Supports title to property.
  - D. Provides data for outside audit.
  - E. Provides data for regulatory commissions.
  - F. Provides protection from future tax claims.
  - G. Provides source of operating statistics.
  - H. Provides data on existing contracts.

Each type of record should be eventually placed in one of these categories:

- a. Keep permanently.
- b. Keep for a specified period of time and then destroy. At this date, a review is made by the committee before destruction is authorized.
- c. Keep for specified period of time and then microfilm.
4. Originate a manual which continually records for the benefit of all parties concerned the disposition policies as they are approved as to each type of record.

5. Recommend appointment of a representative of the committee to act as custodian or perform other duties as required at each location where records are stored either temporarily or permanently.

In performing their duties and responsibilities the committee policies may be varied from time to time to meet the requirements of changing conditions.



## STANDARD COSTS

Obviously, eternal vigilance is necessary. With overhead costs at breath-taking levels, and the trend toward more and costlier overhead, it behooves executives to restudy the problems of the mountains of records and forms which every business operation is bound to accumulate. Advantage should be taken of these dollar-saving potentialities.

Are your filing systems and records in proper order and available for any of the reviews of the past operations, — taxes, for example?

The state of the files and the records may be taken as the measure of the capacity and ability of someone subject to this executive responsibility.

Availability of information saves time. In these days, **TIME IS MONEY.**

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## Are Standard Costs Practical To-Day

(By L. M. ELLIOTT, B.S.C., C.P.A.)

Controller, McCord Corp., Detroit, Mich.

\* An address before the Windsor Chapter.

### INTRODUCTION

I think we will all, including those who are in industries having job costs, confirm our agreement with the fundamental principles of standard costs but will also agree that we are finding them very much of a headache at the present day. During the war period, many of us were forced into either a complete job cost system or a semi-job-and-standard cost system as a result of the requirements of war contracts, renegotiation and other war-time regulations. Now in peace-time many of us have returned to standard costs and have found that sporadic changes in selling prices, plant shut-downs, increased use of incentive plans, fringe labor adjustments and many other matters are creating problems which reflect on standards as a system in the present day accounting. You who are explaining the wide fluctuations in material and labor overhead variances to your factory or general management, with the sometimes resulting embarrassment, will, I think, readily agree with these statements.

Another matter which concerns standard costs is the important rise in labor costs and those accompanying indirect labor costs, such as increased sick leave, vacation pay, rest period, portal to portal pay, increased unemployment benefits and other such matters which introduce both fixed and variable problems into the standard cost picture which had not previously existed. The increased productive capacity remaining from the war and present high prices presages a coming period wherein lower competitive selling prices will dictate operating methods, labor rates, standards and will tend to establish uniformity with industry at the level of the most efficient producer. The problem of heavy competition and probable lower spread between cost and selling price in the advanced post-war business cycle will mean closer tolerance costs as well as closer tolerance production methods.

With your indulgence, I propose first to critically analyze the more important phases of standard costs as they relate to present day business prac-

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tice and then to examine the available alternates. Accordingly, I shall first examine the concept of what are standards.

### WHAT ARE STANDARDS

Advantages which have been claimed for standards are many, of which the following are the more important and are listed in what, to the speaker, is the order of importance:

1. Financial measure of performance through evaluation of variances.
2. Assists in control of costs.
3. Provides quicker reports.
4. More economical to operate than an actual cost system.
5. Provides constant measure of performance as contrasted to the varying average of other actual cost methods.
6. Affixes responsibility for variances from standard performance.
7. Is a more modern method.

I won't take time to discuss the relative merits of each of the benefits claimed by standard costs but I believe any critical examination of the operation of standard costs should recognize the claimed benefits.

In the general determination of standards, we will all agree that standard cost systems and what are meant by standards vary to a great degree and that if any one of us were to appear before this group and describe his own standard cost system, of which he is undoubtedly proud, other members could pick numerous flaws and point out methods in their own system which would appear to that individual to be superior. We have all read many articles about and descriptions of standard cost systems and will all agree, I believe, that there is a disagreement in many of the important phases of standard cost rather than a common agreement. With such divergence in methods and results, how valuable are standard costs to operating management who are attempting to control present day costs and are vitally concerned with getting ready for future sharp competitive conditions?

As a primary matter in setting up standards, particularly labor standards, the usual method is to take the performance of one or more individuals and to make adjustments for special factors. Most of our time study men will agree that if ten men were to set quantity standards on the same job for materials, labor and overhead, they would probably arrive at ten different standards. The allowances, of course, to be made for special conditions is the particular factor which depends upon the judgment of the evaluator.

Another factor affecting the setting of standards is the company's policy with respect to similar operations in two or more plants in different locations. Some companies set the same time allowance regardless of local conditions whereas others arrive at different time and cost allowances. The company at the same time is probably selling the product at the same price irrespective of the place of manufacture. In the present period of somewhat topsy-turvy manufacturing conditions wherein plants are being re-arranged and processes changed, standards may be used which are relative to the selling price but which no longer reflect actual operating conditions.

Another basic matter affecting the determination of standards is the influence of (1) high and low peaks of the economic cycle, and (2) changes resulting from labor grievances and other factors. We might generally pre-

## STANDARD COSTS

sume that a quantity standard once set and for which there was no change in operating equipment and other conditions, would remain fixed for possibly years. Many of us, however, who have watched standards over the past twenty years have seen changes made in what were considered to be good standards as a result of the impossibility of present-day labor to meet such standards and as a result also of labor grievance committees requesting and obtaining more favorable operating standards. These remarks apply particularly to labor standards but the same is equally true with respect to overhead standards and, to a minor extent, material standards. Where standards are subject to change for reasons other than technical changes in equipment, materials or methods, we may well question the determination of standards. I will refer in more detail to these later.

Another matter which concerns standards is the administration thereof. Many companies have in recent years placed the determination of operating standards, budgetary and cost controls, and similar matters, under industrial engineers who, of course, are part of the operating department. The organization set-up whereby the setting of standards and budgets are placed under the direction of people who are responsible for performances thereagainst is not good practice and should be avoided. An interesting solution by one company places the setting of standards under the Treasurer rather than either the Controller or the operating management. I believe it is more common to find time setters under some division of the operating management with the setting of budgets, determination of variances, etc., becoming a function of the Accounting Department.

Another basic factor affecting standards is the present temporary nature thereof. Changes in prices, labor rates and the like are occurring with irregular frequency within the individual calendar or fiscal year and accountants seem to differ widely in their policy as to whether changes are to be made currently or are to be made only once a year. I recognize that it was formerly considered better policy to adjust standards only once each year but I believe that the best portrayal of figures which will be of value to operating and general management is that the standards must be kept up to date. I was informed during the past week by a partner of a Detroit public accounting firm of a standard cost system which had been installed in a large Detroit manufacturing company in which the policy had been established that standards would be changed only the first of each calendar year except for most abnormal circumstances. You will recognize that this company, which is undergoing substantial changes in material prices and probably will have a sizeable labor rate adjustment in coming months, will be presenting to its operating and general management an altogether different picture of what standard costs and variances are, compared with the company which has brought its standards up to date and presents its variances reflecting the closest possible operating conditions. It is a matter of serious concern in the administration of standard costs to maintain up-to-date standards, and the cost and inconvenience resulting from such changes may be an important determinant of policy in this respect.

## MATERIAL STANDARDS

Development of material price standards may also give rise to many problems. In these days of buying materials from different sources, it is

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necessary to establish an average price which may or may not closely reflect actual practice in individual months inasmuch as suppliers may not furnish material in the mix originally decided upon. As an illustration, in the speaker's own company, steel prices in one plant for the same usage vary from  $5\frac{1}{2}$ c to 9c per pound, depending upon the source. An average of 6.94c per pound was established early in September and since that time there has been a general price increase. The lowest and highest price suppliers have fallen down in varying percentages and the result is a present average in excess of 7c per pound. We do not know just when the originally established average mix will be attained, but every month thus far, and it is believed it will continue to be so, has been a "special" month and we are somewhat red in the face explaining the matter of price variance to the general management.

The method in which material price variances are recorded in the accounts of the company will also have a considerable effect upon the reported profit and loss. As you are aware, different methods are in vogue of which the two more common methods are to take the variance (1) upon receipt of vendor's invoice, and (2) as the materials are issued to the production departments. The first method, of course, reflects variances in the operating statements usually before the materials are actually used, and the second method gives a better operating statement but involves certain difficulties in the accumulation and writing off of the variance in the interim period between date of receipt and use of materials.

Other factors with respect to price variances are the problems of whether standard prices are to be established for all materials and whether such standard prices shall include freight, handling costs and other items. Some companies have found it more practical to establish standard material prices for only major products and to use averages for the remaining materials. Accountants, and, of course, the companies in which they are employed, are still in disagreement as to what costs shall be included in the price standards above the supplier's invoice cost.

Another matter which might be mentioned in this connection is the situation which frequently arises wherein the company's production is equaling or exceeding its normal activity levels and in agreeing to take on additional business, it finds that it must acquire materials from a high cost supplier. Should present standards be adjusted to the new average, or should the higher cost become a variance even though the selling price is higher? This problem is not as unusual as it may sound and it is a situation where, if standard prices are adjusted to reflect the higher cost, incorrect standards will be established for the company's regular products.

The revision of material price standards is also important as we are familiar with the fact that price changes do not occur on the first of each month but occur at odd times during each month. If we were to change standard prices immediately we would find ourselves maintaining considerable additional personnel to effect such changes in standards and to take or evaluate the inventory value affected by such price changes.

The development of material usage standards in the present day is also complicated by many factors which appear to be special on a month to month basis but will probably be with us for a considerable period of time. Ma-

## STANDARD COSTS

terials are often received of inferior quality, in other than specified lengths, gauge or other particulars which the customer will overlook in his zeal to obtain materials in order to continue production. Such factors may require additional operations, may cause additional scrap loss and other additional costs not comprehended in the standards as originally set up. Material standards set with these factors included may yield non-competitive costs or if not included may yield variances of such proportions as to make cost control difficult if not impossible.

## LABOR STANDARDS

The development of production time standards against which efficiency rates and variances are to be determined is also subject to different methods of computation. It is customary for general management to think of production standards as being set time allowances for a particular job based upon equipment available and normal working conditions. In the present day, labor has often set production quotas and grievance committees are prone to instigate complaints of all types and thus keep the labor dissatisfied in its job. These and other interruptions caused in production by material shortages, interruptions in customers' schedules, etc., create problems which make the determination of time standards of questionable value.

Time standards are usually made by using a stop watch at different times in the process or by taking the time of different representatives employees at one or more times and by making allowances for unusual conditions, for which the time setter must be a combination of economist, engineer and salesman. Usually the time allowances thus set are posted for review by the Unions and he may find that a supposedly fair allowance becomes a football. The time allowance may be set on the basis of equipment which may not be in good operating condition at the moment but will be brought into good operating condition or replaced by a better machine. Most of you are familiar with the problems involved in setting time allowances and will agree that time standards are very seldom perfect and represent only standards set under present operating conditions. When the cost accountant for your company tells your management that the time allowance for a particular job is "x" minutes, I wonder if you have considered that the cost accountant in your competitive industry may have the same basic time but may have a different combination of factors and thus have an entirely different time allowance for the same job and that both companies will probably sell the end product for the same price.

Another difference in standard times between companies is the determination of whether present day extra labor costs such as rest periods, waiting time, overtime, portal to portal pay, training time and other such factors are to be comprehended in the standard time allowance for the job or included in overhead, or set as some separate allowance. As you are aware, many companies attempt to set standard times on the basis of the actual operating time of the machine without allowances for any idle time; whereas other companies use broader time standards and make allowances for idle time. In the speaker's experience, the Operating Department have not hesitated to express objection to showing as variances the entire rest period and other idle time of machines, and it is well known that under

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the combination of Union rules and standard manufacturing practice that the machine will not be operating 100% of the time.

In order to get more production out of each hour of labor, the policy has become more prevalent of instituting some form of incentive pay. The problem subsequently arises as to whether production time standards used for cost and accounting purposes would be the same for incentive or piece work pay. Where different rates are used, the differences may arise in time allowances or the extent to which labor expenses (rest period, waiting time, etc.) are included in the standard time allowance. The use of different standard time allowances for incentive pay for cost purposes appears to be of doubtful value and can cause many complications; the obvious result should be incentive pay based on the same time allowance as standard costs. Those of you who have followed Union negotiations of time allowances used in determining incentive pay will appreciate the question that arises as to what are standard time allowances. If standard time allowances can vary depending upon Union negotiation, upon allowances for special conditions made by the time checker, and upon swings in the economic cycle, how correct are we as cost accountants to tell our general and operating management that the variances we are showing are relative to true production standards?

The setting of standard labor rates which are to be applied to the time standards just discussed is subject also to considerable variance in treatment and in method. Should the rates be the average for a period, be a fixed figure down to which factory management is to bring its performance, or what other basis should be used in determining the rate? You are all familiar with the plea of factory management that it has done a good job in the past in bringing average rates down, that the present rates are the lowest rates that it can obtain and that standard rate allowance should be somewhat higher than the present minimum, particularly where incentive plans prevail. You, as cost accountants, realize that you are over a barrel in this proposition because your standard costs should be consistent with present operating conditions in order that your independent auditors will not insist upon a year-end adjustment to actual costs for inventory purposes.

Additional problems in standard labor rates arise from the determination of what adjustment in the base rate will be made for incentive or piece work pay. The incentive payments may be based upon many different methods of which the number of units going out the door has become somewhat popular. The payments may be made to plant managers as well as to hourly and indirect workers, and such payments may be considered as fixed and variable items of overhead or may be comprehended in the standard rates where certain conditions are prevalent.

Other problems that arise in the development of standard labor rates is the matter of allowances to be made for lower efficiency arising from frequent interruptions in production and continued maintenance of multi-shift and six-day operations. Where operations are expected to continue at the same rate for extended periods, the problem of considerable importance arises as to whether the standard labor rate should not provide for such condition of labor costs.

## STANDARD COSTS

### OVERHEAD

The effect of overhead, both standard and actual, on manufacturing costs these days, I think you will all agree, is a most important item. During the war period, overhead tended to increase beyond previously known bounds and most companies have not been able to materially reduce overhead in the post-war period. I think general management recognizes that some way will have to be found to bring such overhead rates back more closely to a pre-war standard. The problem of control and proper portrayal of overhead variances is an important function of the Cost Department.

The problem of fixed overhead is particularly important in this post-war period. Many services, such as accounting, engineering, material control, expediting and the like were increased during the war, and the same factors which caused such increases, with the possible exception of Government reports, still seem to be present. We have probably all been faced in about the same degree with the problem of making analyses of present day fixed overhead with that occurring in the pre-war period and with the subsequent computation of percentage of increases in salaries, departmental costs and other items.

While we are making such analyses, I wonder how far apart we as cost accountants are in setting forth fixed expense. Do we mean the old-time accounting definition of fixed expense as being salaries, depreciation, insurance, taxes, with certain additions dependent upon the individual industry, or do we mean a later and not necessarily superseding determination of fixed expense as being portions, or possibly all, of manufacturing expense accounts which do not vary with production.

Another very important item is the determination of what portion of the expenses do we mean as fixed expense. Is the determination on the basis of (1) stand-by operations, (2) low level of activity, or (3) normal activity? As you will recognize, fixed expense determined on any one of these three bases will give an entirely different fixed expense dollar and the resulting material difference in the volume variance. In other words, how can we as cost accountants possibly set forth fixed expense to our general management when we as cost accountants are not together as to what is meant by fixed expense?

In determining the rate of absorption of fixed expense, what basis shall we use and set forth to our factory management as the proper one? Shall the basis be an arbitrary normal activity rate, an annual absorption of fixed overhead, an arbitrary 80% of rated capacity, a balanced production flow, or some other basis? Shall the absorption vary by different amounts for one shift, two shift and three shift operation? This problem is simplified for many of us in that our particular company has been familiar with standard rates based on certain methods over the years and we have little problem except where a change is to be made. While such an observation may be comforting, it should make many of us study our system with the objective of determining whether we have the best method for our particular business and whether we are giving the proper reports to our operating management.

In this connection, I am reminded of a remark made by the President of



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a company recently wherein he stated that he had been with the company for thirty years and had yet to see a "normal" year.

The determination of standard variable overhead rates is subject to almost as much difference in interpretation of method as standard fixed overhead rates. It is common to assume that variable overhead varies with production, but you will all recognize that an account such as maintenance of machinery does not vary to the same extent as society security taxes, and we can make other similar comparisons. The prime problem in to-day's determination of standard variable overhead rates is the allowance to be made for additional costs which may appear to be exceptional to-day, but may or may not be a permanent part of our future operating programs. I refer particularly to additional variable overhead arising from strike losses, rearrangement costs arising from present-day high volume production, use of marginal facilities, high tool costs, grievance committee time, fringe labor adjustments (increased vacations allowances, rest periods, etc.), high scrap and spoilage losses due to poor labour and/or poor materials and the like.

Another matter involving the determination of standard overhead is the absorption of general office expenses such as engineering, planning, purchasing and other general office functions which are prorated to the plants. With the present high volume, the rate of proration for these items is probably abnormally low. The problem arises as to what reflection in the standard burden rate should be made for this factor inasmuch as the present burden may be based on abnormally high activity.

To those of you whose companies have standard distribution cost rates, most of the problems inherent in factory overhead are similarly applicable to distribution costs. The particular problem which arises in the present day is the allowance, if any, to be made to salesmen in their bonus payments for unfilled orders which could not be shipped due to any of the present day factors causing interruptions in production for either short or extended periods. One particular instance of this kind comes to mind with respect to a farm implement manufacturer in the United States whose factory employees have been out on strike for almost a year. I am sure we can all agree that his distribution cost rates must produce some surprising results. It is customary to base certain distribution costs upon sales volume and the effect of such methods in the present day when sales prices vary to a considerable extent and not always in direct relationship to cost, may give some surprising comparisons.

I would like to bring up for discussion at this point the matter of co-ordination of standard burden rates with factory operating budgets. Certain of the management engineering firms in the United States have tended in recent years to set up what is known as a Planning Department as a staff function under the operating management. This department, in addition to production control, sets factory operating budgets for which the primary approach is to (1) place ceilings on certain overhead expenses lower than base averages in order to obtain plant performance thereto, and (2) to set certain expenses slightly higher than present low rates in order not to have plant superintendents working against budgets which are the lowest possible obtainable. In the writer's experience in one company, the management



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engineering firm made an organization change of this nature and also set up a method of determination of fixed overhead (differing from the accounting determination) on a basis of including portions of expense accounts which are determined to not vary with operations. The problems arising from such a procedure are that the setting of expense budgets may sometimes not be co-related with either the standard burden rate determination or with the accounting overhead reports and, second, organization-wise, a second Cost Department is in effect created. The situation thus reaches the ridiculous wherein in the same company there may be two groups determining factory overhead of varying degrees of standardization on different bases. While this problem is not general in most companies, it is, by operation of such management engineering companies, of some concern to many companies. I think you will agree that standard costs determined on either basis would be subject to considerable criticism.

We may have excellent break-even charts, beautiful variance statements, and mathematically correct sales estimates, but if overhead can be determined on such different bases and with radically different results, how solid is our house of cards? Many of you have probably had contact with management engineering firms who have made quite a case out of the existing system.

## REPORTS

The effect of the foregoing methods of determination of standards upon profit and loss operating and budget statements is a subject for which there is not sufficient time this evening to give adequate treatment. Such a discussion would be largely repetitive of items previously developed and I think you will all appreciate the differing analyses and reports to management which would result from a change to alternate methods of computing variances and standards. It is a prime requisite that we all want to present the best reports in the shortest possible time which will include figures which may be challenged by any reader. It is hard to see with such a disagreement as to what are standards and the methods of determining variances therefrom as to how cost reports can be beyond question.

## SUNDRY PROBLEMS

An important problem which arises in connection with the present day use of standard costs is that concerning the setting of sales estimates. The degree to which items previously discussed are included or excluded from standard costs will have a material effect on the selling price determined for the company's products. Should many items be determined to be exceptional and to be borne by the manufacturer, such as strike losses, high expediting costs, etc., the manufacturer may be financially embarrassed should such costs continue into future periods. If the standard product rates are lower as a result of using lower fixed and general office overhead rates, arising from present high volume, will the manufacturer be able to obtain a sufficiently higher selling price when the present high activity level drops and his standard rates of fixed general office overhead increase?

Another problem arises in this connection where costs are increased and selling prices cannot be. I am referring, of course, to products which are not covered by price ceilings. The factors which in the free market do

## COST AND MANAGEMENT

not allow the manufacturer to increase the selling price may be compelling factors to cause standard cost decreases to the extent necessary to allow the company to make a profit.

The valuation of inventory is necessarily affected to an important degree by the extent to which standard costs are determined. Should higher standard costs be determined as a result of including post-war material and labor allowances or using higher rates of overhead, the company may be placed in a position of paying increased income taxes from more or less book entries. Another problem arising from the valuation of inventories is the practice in some companies of inventorying variances which if so inventoried has the practical effect of placing the inventories on an actual cost basis and of including in cost the inefficiencies, allowance, etc. which by their origin are considered to be abnormal costs. The attitude of independent auditors in certifying the annual statements should also be considered. Some of you may have auditors who approve inventories based on standard cost alone whereas many of us through past experience are on the basis of having inventories valued at essentially actual costs which means that standard costs should not vary to any marked degree from actual costs.

When standard prices change, an accounting problem arises for which there is considerable difference in treatment among companies as to the disposition of the credit or debit which may result but as you are aware, some companies reflect the adjustment as a reserve account and others reflect the adjustment in income, either in entirety in the current month or on an amortization basis over the remaining months of the present fiscal year. In certain instances, the credit may represent a "windfall" and should be held in a reserve to provide for future price declines. The profits of the company resulting from material price variances in each case will vary considerably under each of the several policies indicated.

Another problem arising out of the use of standard costs is the accuracy of the figures to be obtained. We are all generally sure that we obtain proper material and overhead price, efficiency and volume variance, but I wonder if we are as sure that we are obtaining the proper labor variance factors. The key, of course, is the extent and value of timekeeping performed in the individual plant. I dare say most of you would state that his method of timekeeping was with little or no fault but I wonder how the method would stand up before a critical approach of an outsider. A timekeeping job has never been a high salaried job and changes in personnel are frequent and quality quite often is not of good calibre. Changes in personnel in the cost and other departments often interfere with the proper co-ordination with the timekeeping department to the extent that the timekeeper is using improper time allowances in determining standard time. In this connection, I am reminded of an article which appeared in one of the accounting magazines in the States wherein the Controller of the company stated that he was meeting his pay roll of approximately 3,000 employees with a minimum, as I remember it, of six people in the pay roll and cost departments. On further reading, we find that while he had only six in the pay roll and cost departments, he had an elaborate timekeeping organization in the plant with one or more timekeepers in each department and that the principal amount of cost and pay roll work was done out in the operating departments. As I remember, his total cost, including timekeeping, was

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probably more than most companies would have for the same number of hourly employees, but I did feel like taking my hat off to the Controller because he was obviously getting a good timekeeping job done and he was apparently able to sell the operating and general management on the inconveniences to both arising therefrom and the somewhat increased cost. If we were to get the labor and time reports coming in exactly correct with the proper distribution of non-productive time, we would probably find the timekeeping cost to be prohibitive. It is a matter of management concern to find the proper balance in which timekeeping cost is not excessive and the labor reports are correct to the essential degree.

An additional problem arises for the cost accountant when he attempts to determine actual costs of sales for his general or operating management. Many products, such as parts for a particular model of automobile, may be produced under standard costs for control purposes but are actually taken on a job basis for only the particular car model year involved. The management often wants to know the actual cost involved in producing the part in order that it may make the proper allowances in bidding on a similar part for the next car model year; most of you would promptly state that the problem would be simple and that the cost accountant would merely allocate variances. It may well be, however, that the particular design caused the company to incur special equipment, expediting, engineering and other costs which, under a method of prorating variances, would not be correctly allocated. Others of you will probably say that the company should keep its accounts on a job cost basis, but I am sure that upon reflection you will agree that such costs would be better shown as standards and variances during each month's production in order to afford better cost and control reports.

Another problem often arises to which I have not previously referred and that is reports for submission to Government authorities. In Canada you are still concerned with reports to be filed with your ceiling price authorities and probably others of which, excepting income tax, I am not aware. In the United States, reports are required to be filed with a Securities and Exchange Commission which exercises jurisdiction over all securities listed on stock exchanges, with the Federal Trade Commission and with Government procurement agencies where sales are made to such Government agencies. In the United States I believe the Government authorities have now accepted standard costs and no longer raise objections which they used to make. I do not know what the situation may be in Canada. It may well be that your authorities are not reconciled to standard costs. In either event, I am sure that you will find that they insist upon a consistency of policy.

## OTHER COST SYSTEMS

If there are so many objections to present day use of standard costs, what are the alternates? You are all aware, I am sure, and I will not take much of your time to describe the advantages and disadvantages of other cost systems popularly known as "actual", "normal", and "job". We all realize that there are many combinations of any and all of these systems possible.

With respect to "actual" cost systems, the advantage has always been

## COST AND MANAGEMENT

that it can be called "actual" which is a very good selling point to the operating and general managements and from which there is usually little complaint. Another advantage is that by using actual costs and sales estimates the selling price, without consideration of competitive factors, will recover the full actual cost. The disadvantages of actual cost systems are many and are very important, involving principally:

1. Improper prior period comparisons are available inasmuch as unusual and special items may be included which would be difficult to eliminate if such were desired.

2. Higher inventory values result and companies thus pay an income tax on excess and special costs thus capitalized.

3. No basis except comparison with prior period is afforded for control of current costs and improvements in the future.

I am sure we all recognize the fact that actual costs among accountants can vary considerably depending upon the methods to be used in allocating departmental expenses and that actual costs as such do not exist.

The advantages and disadvantages of normal and job costs relate to the special purposes for which they are used. It is customary that normal costs are used in a similar manner to standard costs without use of operating controls and generally without the time study of detailed operation. Job costs are generally applicable to production of comparatively few units and usually involve problems of location of production, size of units involved and other factors.

## CONCLUSION

You may have gathered the conclusion that the speaker does not believe standard costs practical in the present day. He has approached the problem more from the standpoint of appreciating the problems and inequities in standard costs, for it is only in knowing the advantages as well as the disadvantages that any particular method can be properly evaluated. After such examination, I would like to offer the following recommendations or conclusions for your consideration:

1. Standards of some nature or method must be available for establishing responsibility for cost control, for supplying the basis upon which to plan future improvements, and for supplying a measure upon which to judge achievement. We all, fortunately or unfortunately, live by comparison with some standard set either by our neighbour, a relative or the boss and we must necessarily also have some gauge for measuring progress from a business standpoint.

2. Standards should be set with the objective of placing the company in a good post-war position. It is believed that allowances for maintenance and any remaining special services and excess costs should not be included in standards and should be set out as variances in order that management's attention may be focussed on the excess cost and the problem of elimination thereof. It is not believed that standards for general office and distributive overhead should be reduced as a result of present day high volume but that such allowances should be increased to that obtaining in a more normal period in order that the company's selling prices may not be adversely affected. At the present time in the United States, selling prices will probably cover costs of most any nature which will be developed and it is thought that the objective of the cost accountant and his standard cost system

## STANDARD COSTS

should be directed toward elimination of all possible costs in his preparation for the coming competitive market.

3. It is believed that more uniformity in cost determination preferably by industry should be evolved. We have examined the differences that occur in standard cost methods and it appears somewhat ridiculous to consider that two competing companies who must in a competitive market sell their similar products at similar prices should have widely divergent cost methods. It is recognized that there are differences in labor rates and possibly material prices between localities but usually the factors are compensating in that a lower labor rate customarily means a lower output per employee. Many of you having to reply to statements such as this would state that problems in your particular business are much different from those of a competitor and your cost methods must, accordingly, be different. I am reminded in this connection of the statements in the United States of a top public accounting organization which had been trying for years to set up the terminology for "earned surplus" and for certain other more commonly known accounting terms. There seemed to be no basis for attaining agreement upon the term "earned surplus" until 1933 when the Securities Exchange Commission was set up and proceeded to issue regulations governing accounting presentation including a definition of "earned surplus" which is still the standard.

4. It seems that standard costs should bear a more close relationship to selling price. I have already recommended that there be more uniformity in methods. It would seem that in many industries the selling price is the only known factor and that the respective costs are matters to be determined after the selling price has been set. It is recognized, of course, that for some products, such as meat packing, operating costs bear little or no relationship to selling price.

5. I recommend that standard costs be utilized to their utmost because with their many faults they appear to be most advantageous and best suited to present day operating methods. I can see no way but for the cost accountant to continue to bear his cross with respect to explanations of all the special factors that are now present in his costs.

# « STUDENT SECTION »

## GENERAL ACCOUNTING

Comments by MR. J. D. CAMPBELL, C.A., R.I.A.

A review of the marks obtained in the 1947 examinations held in Accounting I reveals the following results.

Question Number	% of total marks obtained by all candidates	% of total marks obtained by candidates answering the question
I	75%	78.5%
II	73%	75%
III	63.5%	65%
IV	60%	72%
V	61%	62%

The above results reveal (1) that the major difficulties arose in Questions III and V for those who attempted the questions and (2) that a disproportionate number failed to attempt Question IV.

The following comments are offered to the students covering the answers submitted to questions III, IV and V.

The solution to Question III published in the July 1947 issue of Cost and Management indicates the answer which was expected. The major

1. that the increase in the value of the furniture and fixtures would errors in answering this question arose from the failure on the part of certain students to realize

involve a corresponding adjustment in the depreciation provision for the year.

2. that the petty cash fund was maintained on an imprest basis and

3. that the returned merchandise has been included in the closing inventory and that the error was in the failure to make the necessary entry for the returned merchandise. It was difficult to tell whether the source of the difficulty was in not knowing the entry to make assuming a proper analysis of the situation or in a failure to make the proper analysis.

In general the explanatory narrative accompanying the entries submitted was unsatisfactory. It should be borne in mind that the explanation serves to indicate either where the information represented in the entry can be obtained or sets out the information in detail.

The answers to the (b) division of the question indicated a failure on the part of certain of the students to realize that the analysis required was

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(Editor's Note: Mr. Campbell is Associate Professor of Accounting, University of Alberta, member of our Co-ordinating Educational Committee and for the past two years has marked the papers in Accounting I and II. We are pleased to welcome Mr. Campbell to the Student Section of our magazine.)

## STUDENT SECTION

merely the reflection of the entries submitted under (a) in respect to the profit and loss for the period. As was expected certain increases were confused with decreases and the effect of certain of the entries made in (a) was not indicated.

### Question IV

John Todd operates a wholesale business but does not keep anything more than a cash book and some memoranda records. From these sources the following information is derived:

(1) Item	Jan. 1 1946	Dec. 31 1946
Accounts receivable .....	\$4,806.15	\$7,489.20
Accounts payable (for merchandise) .....	2,954.17	4,870.22
Merchandise inventory .....	8,690.77	5,546.33
(2) Year 1st January to 31st December 1946		
Remittances from customers .....	\$60,109.07	
Payments to creditors for merchandise .....	45,624.19	
Cash sales .....	1,009.17	
Cash purchases of merchandise .....	250.00	

Required:

- (a) Computation of purchases
- (b) Computation of sales
- (c) Statement showing the gross trading profit, all for the year ending 31st December 1946.

Solution:

(a) Computation of purchases	
Accounts payable 31st December 1946 .....	\$ 4,870.22
Payments to creditors for merchandise .....	45,654.19
	<hr/>
	\$ 50,524.41
Less accounts payable 1st January 1946 .....	2,954.17
	<hr/>
Credit purchases for year .....	\$ 47,570.24
Cash purchases for year .....	250.00
	<hr/>
Total purchases for year .....	\$ 47,820.24
<hr/>	
(b) Computation of sales	
Accounts receivable 31st December 1946 .....	\$ 7,489.20
Remittances from customers .....	60,109.07
	<hr/>
	\$ 67,598.27
Less: Accounts receivable 1 January 1946 .....	4,896.15
	<hr/>
Credit sales for year .....	\$ 62,702.12
Cash sales for year .....	1,009.17
	<hr/>
	\$ 63,711.29
	<hr/>

## COST AND MANAGEMENT

(c)

John Todd

Statement of Gross Trading Profit  
for year ended 31st December 1946

Sales .....		\$ 63,711.29
Less cost of sales		
Inventory 1st January 1946 .....	8,690.77	
Purchases .....	47,820.24	
		<hr/>
		\$ 56,511.01
Less Inventory 31 December .....	5,546.33	
		<hr/>
		50,964.68
Gross operating profit .....		<hr/> <u>\$ 12,746.61</u>

Question IV was designed to test the students' ability to grasp the significance of the double entry equation. From the data given an analysis of the accounts payable account gave rise to a necessary credit in this account of \$47,820.24 if the additional items of opening and closing balances and payments to creditors were correct. The next step was the realization that this amount would arise from the purchase journal and would represent the amount of the credit purchases for the year. A similar type of analysis was required covering the sales computation.

The fact previously mentioned namely that approximately 15% of the students failed to attempt this question indicates that in part the students' ability in analysis of this nature is lacking.

It was noticeable that students who attempted the question for the most part did a creditable job although in several cases the student did not appear to realize the difference between cost of sales and purchases.



## STUDENT SECTION

### COST ACCOUNTING

Comments by MR. A. VAN HARRIS, C.A.

#### PROBLEM

The V-M Lumber Company purchases hardwood logs and manufacturers certain kinds of lumber from them. It divides its production into three general classes, grades A, B, and C, in addition to the scrap products which include slabs, sawdust, etc.

Raw material is purchased at flat prices for large lots and in some cases one lot includes logs from which two or more grades of lumber are produced.

Inventories of each grade of finished lumber are carried at cost. Cost of sales for each grade are based on opening inventories and monthly production costs. Production costs are apportioned so that the unit costs of the three grades of lumber for each month are proportionate to sales prices at the end of the month.

Inventories at January 1, 1945, were:

Raw Materials—Logs .....	\$ 9,000.00
Supplies .....	1,000.00
Grade A — 220,000 feet .....	4,840.00
Grade B — 300,000 feet .....	5,400.00
Grade C — 400,000 feet .....	6,000.00
Scrap (at sales prices less percentage for selling and administrative expenses) .....	500.00

Sales, costs, and expenses for the month of January, 1945, were as follows:

Sales — Grade A, 120,000 feet .....	\$ 3,600.00
Sales — Grade B, 240,000 feet .....	6,000.00
Sales — Grade C, 200,000 feet .....	4,200.00
Sales — Scrap (Contains \$20 Portion of Selling and Administrative Expenses) .....	100.00
Logs Purchased .....	10,000.00
Supplies Purchased .....	600.00
Mill Salaries and Wages .....	1,950.00
Other Mill Expenses .....	700.00
Sales Department Salaries and Expenses .....	1,000.00
General and Administrative Expenses .....	400.00

The Inventories at January 31, 1945, were as follows:

Raw Materials — Logs .....	\$16,400.00
Supplies .....	1,250.00
Grade A .....	160,000 feet
Grade B .....	180,000 feet
Grade C .....	290,000 feet
Scrap (at sales price less % for selling and administrative expenses) .....	\$ 650.00

There was no material in process, either at the beginning or end of the month.

The sales prices at January 31, 1945, were as follows:

Grade A .....	\$30.00 per 1,000 feet
Grade B .....	25.00 per 1,000 feet
Grade C .....	21.00 per 1,000 feet

## COST AND MANAGEMENT

Prepare a statement of production costs and their allocation for the V-M Lumber Company for the month of January, 1945; also a schedule showing details of sales, costs, and gross profits for each of the three standard grades of lumber. Costs per thousand feet need not be extended beyond two decimal places. In statements round off amounts to the nearest dollar figure.

### SOLUTION

#### THE V-M LUMBER COMPANY (SCHEDULE I) STATEMENT OF PRODUCTION COSTS

January 1945

Logs:	
Inventory .....	\$ 9,000
Purchases .....	10,000
	<hr/>
Total .....	19,000
Inventory, January 31, 1945 .....	16,400
	<hr/>
Log Cost .....	\$ 2,600
Mill Salaries and Wages .....	1,950
Supplies:	
Inventory, January 1, 1945 .....	1,000
Purchases .....	600
	<hr/>
Total .....	1,600
Inventory, January 31, 1945 .....	1,250
	<hr/>
Supply Cost .....	350
Other Mill Expenses .....	700
	<hr/>
Total .....	5,600
Credit for Scrap (See Schedule II) .....	230
	<hr/>
Net Production Cost .....	5,370
	<hr/> <hr/>

#### THE V-M LUMBER COMPANY (SCHEDULE II) STATEMENT OF SCRAP PRODUCED

For month of January, 1945

Inventory, January 1, 1945 .....	\$500
Scrap Sales during January .....	\$100
Less Portion of selling and General Expenses .....	20
	<hr/>
Balance .....	420
Inventory, January 31, 1945 .....	650
	<hr/>
Produced during January .....	\$230
	<hr/> <hr/>

(SCHEDULE IV)

## THE V-M LUMBER COMPANY

## STATEMENT OF PROFIT AND LOSS

For Month of January 1945

## STUDENT SECTION

	GRADE A			GRADE B			GRADE C			Total
	Units	Unit Cost	Amount	Units	Unit Cost	Amount	Units	Unit Cost	Amount	
Sales	120 M	30.00	3,600	240 M	25.00	6,000	200 M	21.00	4,200	13,800
Cost of Sales:										
Inventory, Jan. 1	220 M	22.00	4,840	300 M	18.00	5,400	400 M	15.00	6,000	16,240
Production	60 M	24.08	1,445	120 M	20.06	2,408	90 M	16.85	1,517	5,370
Total	280 M		6,285	420 M		7,808	490 M		7,517	21,610
Inventory, Jan. 31										
Old	100 M	22.00	2,200	60 M	18.00	1,080	200 M	15.00	3,000	6,280
New	60 M	24.08	1,445	120 M	20.06	2,408	90 M	16.85	1,517	5,370
Total	160 M		3,645	180 M		3,488	290 M		4,517	11,650
Cost of Sales	120 M	22.00	2,640	240 M	18.00	4,320	200 M	15.00	3,000	9,960
Gross Profit			960			1,680			1,200	3,840
Selling and General Expense (1400—20)										1,380
Net Profit for month										2,460

COST AND MANAGEMENT  
THE V-M LUMBER COMPANY (SCHEDULE III)  
STATEMENT OF ALLOCATION OF COST

For month of January, 1945

Grade	Produced	Sales Price	Total	Allocation
		January 31, '45		of Cost
A	60,000 feet	\$30	1,800	1,445
B	120,000 feet	25	3,000	2,408
C	90,000 feet	21	1,890	1,517
			<hr/> 6,690	<hr/> 5,370

COMMENTS

The problem was one set for the first paper in Advanced Cost Accounting in April 1947. Candidates who attempted the problem did very creditably, and appeared to take the problem's unusual factors in their stride. The distribution of production costs on the basis of sales value is admittedly unusual, but a recognized method. Some students did not remember to weigh their sales prices with production figures, as was only reasonable.

It is agreed that the scrap recovery figures might have been introduced in the profit and loss statement, although a careful reading of the problem, in the writer's opinion, links this item with the production statement. Alternate treatment of this amount would produce somewhat different results.

The problem was indefinite in that "cost" for inventories was not specifically stated. This enabled the candidate to use any of the recognized methods such as "fifo" or "lifo", or average cost. It will be noted that this solution uses the "fifo" method.

